PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P/63805.WOP/PS	**FOR FURTHER ACTION**	See Form PCT/IPEA/416
International application No. PCT/EP2004/052114	International filing date *(day/month/year)* 09.09.2004	Priority date *(day/month/year)* 20.09.2003
International Patent Classification (IPC) or national classification and IPC H04Q11/00, H04J14/02		
Applicant MARCONI COMMUNICATIONS GMBH		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 2 sheets, as follows:
      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
04.07.2005	26.09.2005
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Dhondt, E Telephone No. +31 70 340-3677

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/052114

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
   - ☐ international search (under Rules 12.3 and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4)
   - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-11	as originally filed

Claims, Numbers

7-11	as originally filed
1-6	received on 04.07.2005 with letter of 20.06.2005

Drawings, Sheets

1/3-3/3	as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/052114

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	3,6,10,11
	No:	Claims	1,2,4,5,7-9
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-11
Industrial applicability (IA)	Yes:	Claims	1-11
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V.

1 The following document is referred to in this communication:
D1 : US 2002/064336 A1 (GRAVES ALAN F ET AL) 30 May 2002 (2002-05-30)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (the references in parentheses applying to this document): "A node (fig. 3) for an optical communication network having at least one switching unit (fig.3, ref.12a..12m), a plurality of optical interfaces (fig.3, ref. 16a..16n) for connecting to a transmission line (fig.3, ref. 22), which comprise a demultiplexer (fig.3, ref. 16a..16n) for disassembling a multiplex signal arriving from a WDM transmission line into a plurality of input channels, each of which is supplied to an input port of the switching unit (fig.3 , lines 24), and a multiplexer (fig.3, ref 18a..18n) for assembling a plurality of output channels, each originating from an output port of the switching unit (fig.3, lines 26), into an outgoing multiplex signal, and at least one receiver (implicitly disclosed at the other end of lines 36, labeled "DROP") at the end for extracting an information signal from the communication network, wherein an input switching means is located between each interface and the switching unit on the path of the input channels (fig.3, ref. 56a..56n) and is adapted to supply an input channel to the switching unit as well as to the receiver (In the arrangement of fig.2, the signals channels are coupled to the drop lines via the interconnection arrays 30 and the wavelength converting switch, see also paragraph[0004]. Since figure 3 discloses the same optical switching system which now includes a protection switching arrangement, as described in paragraph[0035], it is clear that the PS 62 of fig.3 only serves to protect the interconnection arrays 30 of fig.2. Therefore also in figure 3, some of the input channels are supplied to the switching unit and as well - via the PS62 and the wavelength converting switch - to the the receivers connected to the drop lines 36."

3 INDEPENDENT CLAIM 4

3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 4 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (the references in parentheses applying to this document): "A node (fig. 3) for an optical communication network having at least

one switching unit (fig.3, ref.12a..12m), a plurality of optical interfaces (fig.3, ref. 16a..16n) for connecting to a transmission line (fig.3, ref. 22), which comprise a demultiplexer (fig.3, ref. 16a..16n) for disassembling a multiplex signal arriving from a WDM transmission line into a plurality of input channels, each of which is supplied to an input port of the switching unit (fig.3 , lines 24), and a multiplexer (fig.3, ref 18a..18n) for assembling a plurality of output channels, each originating from an output port of the switching unit (fig.3, lines 26), into an outgoing multiplex signal, and at least one transmitter (implicitly disclosed at the other end of lines 34, labeled "ADD") for supplying an information signal to the communication network, wherein an output switching means is located between each interface and the switching unit on the path of the output channels (fig.3, ref. 58a..58n) and is adapted to supply an output channel to the interface from the switching unit as well as from the transmitter (In fig.3, the output channels are supplied to the interface. The channels that come from the transmitters ADD, also go via the switch units.)."

4 DEPENDENT CLAIMS 2, 3, 5-11

4.1 Dependent claims 2, 3, 5-11 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), since the additional subject matter and its advantages in the systems of claims 1 and 4 are well known by the skilled person.

CLAIMS

1. A node for an optical communication network having at least one switching unit (2), a plurality of optical interfaces (1) for connecting to a transmission line (3), which comprise a demultiplexer (4) for disassembling a multiplex signal arriving from a WDM transmission line into a plurality of input channels (8), each of which is supplied to an input port of the switching unit (2), and a multiplexer (5) for assembling a plurality of output channels (11), each originating from an output port of the switching unit (2), into an outgoing multiplex signal, and at least one receiver (10) for extracting an information signal from the communication network, characterized in that an input branching means (7) is located between each interface (1) and the switching unit (2) on the path of the input channels (8) and is adapted to supply an input channel (8) to the switching unit (2) as well as to the receiver (10).

2. The node of claim 1, characterized in that the input branching means (7) comprises, corresponding to each output port of the demultiplexer (4), a switch (9) for selectively connecting this output port to one of the input ports of the switching unit (2) or to the receiver (10).

3. The node of claim 2, characterized in that each receiver (10) has one output port of the demultiplexer (4) associated to it, to which it is connectable by the input branching means (7), and that the receivers (10) are provided in a number corresponding to the number of the input channels.

4. A node for an optical communication network having at least one switching unit (2), a plurality of optical interfaces (1) for connecting to a transmission line (3), which comprise a demultiplexer (4) for disassembling a multiplex signal arriving from a WDM transmission line into a plurality of input channels (8), each of which is supplied to an input port of the switching unit (2), and a multiplexer (5) for assembling a plurality of output channels (11), each originating from an output port of the switching unit (2), into an outgoing multiplex signal, and at least one transmitter (13) for supplying an information signal to the communication network, characterized in that an output branching means (7) is located between each interface (1) and the switching unit (2) on the path of the output channels (11) and is adapted to supply an output channel (11) to the interface(1) from the switching unit (2) as well as from the transmitter (13).

5. The node of claim 4, characterized in that the output branching means (7) comprises, corresponding to each input port of the multiplexer (5), a switch (9) for selectively connecting this input port to one of the output ports of the switching unit (2) or to the transmitter (13).

6. The node of claim 5, characterized in that the transmitters (13) are provided in a number corresponding to the number of the output channels (11), and that each transmitter (13) has one input port of the multiplexer (5) associated to it, to which it is connectable by the output branching means (7).